Girijananda Chowdhury University Assam
Course Structure of <u>Bachelor of Mathematics</u> as Major
Programme Code-B.Sc./B.A.-3025/3026

<mark>YEAR– 1</mark>

First Semester				
Code	**Course**	**Category of Course**	**L-T-P**	**Total Credit**
BMA23101T	**Algebra and Calculus I**	Major/core	3-1-0	4
BMA23101T	Minor (**Algebra and Calculus I**)	Minor	3-1-0	4
BMA23102T	Minor (Numerical Analysis)	Minor	3-1-0	4
BMA23141T	Multidisciplinary –I (Foundation of Mathematics)	MDC	3-0-0	3
	English/MIL/Foreign language	AEC	2-0-0	2
	SEC– I	SEC	3-0-0	3
	VAC-I	VAC	2-0-0	2
			TOTAL	22

Second Semester				
Code	**Course**	**Category of Course**	**L-T-P**	**Total Credit**
BMA23103T	**Algebra and Calculus II**	Major/core	3-1-0	4
BMA23103T	Minor (**Algebra and Calculus II**)	Minor	3-1-0	4
BMA23104T	Minor (Complex Analysis)	Minor	3-1-0	4
BMA23142T	Multidisciplinary–II (Combinatorics, Partial Fractions and Measures of Central Tendency)	MDC	3-0-0	3
	English/MIL/Foreign language	AEC	2-0-0	2
	SEC-II	SEC	3-0-0	3
	VAC- II	VAC	2-0-0	2
			TOTAL	22

<mark>EXIT OPTION WITH CERTIFICATION</mark>. However, such students who desire to exit after 1year of study need to undertake a vocational course (4credits).

YEAR– 2

Third Semester

Code	Course	Category of Course	L-T-P	Total Credit
BMA23201T	**Differential Equations**	Major/core	3-1-0	4
BMA23201T	Minor (**Differential Equations**)	Minor	3-1-0	4
BMA23105T	Minor (Basic Statistics)	Minor	3-1-0	4
BMA23143T	Multidisciplinary-III (Introduction to programming with MATLAB)	MDC	3-0-0	3
	AEC–III	AEC	2-0-0	2
	SEC–III	SEC	3-0-0	3
			TOTAL	20

Fourth Semester

Code	Course	Category of Course	L-T-P	Total Credit
BMA23202T	**Complex Analysis**	Major/core	4-0-0	4
BMA23203T	**Real Analysis I**	Major/core	4-0-0	4
BMA23204T	**Group Theory**	Major/core	4-0-0	4
BMA23220T	**Elective I-** Sets and Logic	Major/core (any one)	4-0-0	4
BMA23221T	**Elective I-**Introduction to Probability			
	AEC–IV	AEC	2-0-0	2
	VAC–IV	VAC	2-0-0	2
			TOTAL	20

EXIT OPTION WITH DIPLOMA. However, such students who desire to exit after 2 years of study need to undertake a vocational course (4credits).

Fifth Semester

Code	Course	Category Of Course	L-T-P	Total Credit
BMA23205T	**Finite Differences & Vector Calculus**	Major/core	4-0-0	4
BMA23206T	**Analytic Geometry**	Major/core	4-0-0	4
BMA23207T	**Ring Theory**	Major/core	4-0-0	4
BMA23222T	**Elective II-**Introduction to Statistics	Major/core (any one)	4-0-0	4
BMA23223T	**Elective II-**Discrete Mathematics			
BMA23208R	Internship	Internship	0-0-8	4
			TOTAL	20

Sixth Semester

Code	Course	Category Of Course	L-T-P	Total Credit
BMA23209T	**Mechanics**	Major/core	4-0-0	4
BMA23301T	**Real Analysis II and Metric Spaces**	Major/core	4-0-0	4
BMA23302T	**Linear Algebra**	Major/core	4-0-0	4
BMA23320T	**Elective III-**Numerical Analysis	Major/core (any one)	4-0-0	4
BMA23321T	**Elective III-**R Programming			
BMA23322T	**Elective IV –** Operation Research	Major/core (any one)	4-0-0	4
BMA23323T	**Elective IV –**Spherical Trigonometry & Astronomy			
			TOTAL	20

EXIT OPTION WITH BACHELOR DEGREE. However, such students who desire to exit after 3 years of study will be awarded degree with Single Major and/or Minor /Double Minor) in Discipline(s).

YEAR– 4

Seventh Semester

Code	Course	Category Of Course	L-T-P	Total Credit
BMA23401T	**Mathematical Transforms (Laplace & Fourier) and Integral Equations**	Major/core	4-0-0	4
BMA23303R	**Project I**	Major/core	0-0-8	4
BMA23402T	**Research Methodology**	Major/core	4-0-0	4
OR				
BMA23324T	**Elective V:** General Topology	Major/core (any one)	4-0-0	4
BMA23325T	**Elective V:** Ordinary Differential equation of higher order			
BMA23420T	**Elective VI:** Advanced Abstract Algebra	Major/core (any one)	4-0-0	4
BMA23421T	**Elective VI:** Tensor Analysis			
BMA23304T	Minor in Mathematics (for other depts.)	Minor	4-0-0	4
BMA23305T	Minor in Mathematics (for other depts.)	Minor	4-0-0	4
			TOTAL	20

Eighth Semester

Code	Course	Category of Course	L-T-P	Total Credit
BMA23326T	**Elective VII:** Graph Theory	Major/core (any one)	4-0-0	4
BMA23327T	**Elective VII:** Partial Differential Equations with Lab			
BMA23328T	**Elective VIII:** Fuzzy sets and their applications	Major/core (any one)	4-0-0	4
BMA23329T	**Elective VIII:** Special Theory of Relativity			
BMA23380T	**Elective VIII:** Number Theory			
BMA23381T	**Elective IX:** Theory of Random Processes	Major/core (any one)	4-0-0	4
BMA23382T	**Elective IX:** Fluid Dynamics			
BMA23383T	**Elective IX:** Mathematics for Data Science			
BMA23403R	**Project II**	Major/core	0-0-16	8
OR				
BMA23422T	**Elective X:** Wave theory	Major/core (any two)	4-0-0 + 4-0-0	
BMA23423T	**Elective X:** Functional Analysis			
BMA23424T	**Elective X:** Lebesgue Measure			
BMA23425T	**Elective X:** General Theory of Relativity			
BMA23426T	**Elective X:** Continuum Mechanics			
BMA23427T	**Elective X:** Dynamical System			
			TOTAL	20

After 4 years of study students will be awarded DEGREE WITH HONOURS or DEGREE WITHOUT RESEARCH (with Single Minor/Double Minor) in Discipline(s).